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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,890	10/25/2001	Slade H. Gardner	TA-00499	7260

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EXAMINER
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PIAZZA CORCORAN, GLADYS JOSEFINA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/998,890	GARDNER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Gladys J Piazza Corcoran	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                      | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                             | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>11/02</u> . | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-19 in Paper filed October 20, 2003 is acknowledged. The traversal is on the ground(s) that the method can not be enabling with out description of the apparatus nor can the best mode be disclosed without description of the apparatus, the method and apparatus are tightly bound, and any search for the method must include the apparatus.. This is not found persuasive because as set forth in the prior Office Action, the process as claimed can be practiced by another materially different apparatus such as without the lobed member being releasable from the shaft by releasing the ends and being capable of flexing into a strip. Additionally, the apparatus as claimed can be used to practice another and materially different process such as by pressing materials other than pre-preg fabric such as plastic, paper, or metal, without the step of curing, or without the step of repeating the pressing of the layers to form a composite.

The requirement is still deemed proper and is therefore made FINAL.

2. It is additionally noted Applicant has cancelled the claims in the non elected Group II (Claim 20), therefore no claims are withdrawn and the argument against the restriction requirement is considered moot.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claims 1, 10, and 18 are unclear by reciting "sequentially engaging the grooves and pressing the fabric into the grooves." It is unclear how these steps can be performed sequentially. It appears that Applicant intended to recite simultaneously.
6. Claim 5 recites the limitation "the layers of fabric" in line 2. There is insufficient antecedent basis for this limitation in the claim.
7. Claim 7 recites the limitation "the stiffener" in lines 6 and 9. There is insufficient antecedent basis for this limitation in the claim.
8. Claim 11 recites the limitation "the fabric" twice in line 2. There is insufficient antecedent basis for this limitation in the claim. It is unclear whether Applicant is referring to the prepreg fabric or the additional layers of fabric.
9. Claim 18 recites the limitation "the stiffener panel" in steps g and h. There is insufficient antecedent basis for this limitation in the claim. It is suggested to amend to -the multilayered stiffener--.
10. Claim 19 recites the limitation "the fabric" twice in line 2. There is insufficient antecedent basis for this limitation in the claim. It is unclear whether Applicant is referring to the prepreg fabric or the additional layers of fabric.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 3, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Graff (US Patent No. 3,477,894).

Graff discloses a method of fabricating a corrugated laminate panel by providing a base tool (16) having contoured grooves in an outer surface (column 4, lines 58-62), providing a roller having a rotating shaft and a lobed member mounted on the shaft (molding roller 19), the lobed member having lobes that match the contours of the grooves, aligning a layer of prepreg fabric (material 5; column 4, lines 38-43) with the grooves of the base tool, the fabric located between the base tool and the roller, moving the roller across the grooves of the base tool and engaging the grooves and pressing the fabric into the grooves with the lobes (column 4, lines 58-72), and curing the fabric (column 5, lines 1-9).

As to claim 3, tension is maintained in the fabric as the lobes press the fabric into the grooves (column 4, line 73 to column 5, line 1). As to claim 8, the lobed member and the base tool are provided with a sine-wave profile.

13. Claims 1, 5, 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Weight et al. (US Publication No. 2001/0001409).

Weight discloses a method of fabricating a corrugated laminate panel by providing a base tool (holding panel 8) having contoured grooves in an outer surface, providing a roller having a rotating shaft and a lobed member mounted on the shaft

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(roller 10), the lobed member having lobes that match the contours of the grooves ([0017]), aligning a layer of prepreg fabric (sheets 9) with the grooves of the base tool, the fabric located between the base tool and the roller, moving the roller across the grooves of the base tool and engaging the grooves and pressing the fabric into the grooves with the lobes ([0021]), and curing the fabric ([0022]).

As to claim 5, the fabric is cured with heat and pressure ([0022]). As to claim 8, the tool and the roller have a sine-wave profile ([0016]).

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 1, 3, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff (US Patent No. 3,477,894) in view of Marschke (US Patent No. 6,006,806) and/or Makoui et al (US Patent No. 6,173,496).

The roller in Graff is considered to have a rotating shaft and a lobed member mounted on the shaft. Optionally, Marschke and or Makoui are cited to show it is well known in the art when forming rollers with patterned lobes on the surface of the roller to provide the roller with a rotating shaft and a lobed member mounted on the shaft. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the method of forming a panel as shown by Graff with a roller that has a shaft and a lobed member mounted on the shaft as it is well known in the art and optionally exemplified by Marschke and/or Makoui.

17. Claims 1, 5, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weight et al. (US Publication No. 2001/0001409) in view of Marschke (US Patent No. 6,006,806) and/or Makoui et al (US Patent No. 6,173,496).

The roller in Weight is considered to have a rotating shaft and a lobed member mounted on the shaft. Optionally, Marschke and or Makoui are cited to show it is well known in the art when forming rollers with patterned lobes on the surface of the roller to provide the roller with a rotating shaft and a lobed member mounted on the shaft. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the method of forming a panel as shown by Weight with a roller that has a shaft and a lobed member mounted on the shaft as it is well known in the art and optionally exemplified by Marschke and/or Makoui.

18. Claim 1-3, 5, 8, 10, 11, 13, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCarville et al. (US Patent No. 5,843,355) in view of Graff (US Patent No. 3,477,894) and/or Fell (US Patent No. 5,543,199) and optionally further in view of Marschke (US Patent No. 6,006,806) and/or Makoui et al (US Patent No. 6,173,496).

McCarville et al. discloses a method of fabricating a corrugated laminate panel by providing a base tool (tool 72) having contoured grooves in an outer surface, aligning a layer of prepreg fabric (composite material 68) with the grooves of the base tool (column 8, lines 11-19), pressing the fabric into the form of the tool and curing the fabric (column 8, lines 60-62).

McCarville does not particularly disclose how the fabric is pressed into the tool other than stating a hot iron is used. It is well known in the art to press fabric layers into a corrugated tool by providing a roller having a rotating shaft and a lobed member mounted on the shaft, the lobed member having lobes that match the contours of the grooves, with the fabric located between the base tool and the roller, moving the roller across the grooves of the base tool and engaging the grooves and pressing the fabric into the grooves with the lobes. For example, Graff discloses pressing a fabric into a tool (16) with a roller (19) as claimed. Fell shows another example where a fabric is pressed into a tool with a roller as claimed as an alternative to other forms of pressing tools such as irons, platens. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the method of forming a panel as shown by McCarville by pressing the fabric into the tool with a roller as claimed as is well known in



the art and exemplified by Graff and/or Fell in order to properly press the fabric into the grooves of the tool, only the expected results would be attained.

The rollers in Graff and/or Fell are considered to have a rotating shaft and a lobed member mounted on the shaft. Optionally, Marschke and or Makoui are cited to show it is well known in the art when forming rollers with patterned lobes on the surface of the roller to provide the roller with a rotating shaft and a lobed member mounted on the shaft. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the method of forming a panel as shown by McCarville, Graff and/or Fell with a roller that has a shaft and a lobed member mounted on the shaft as it is well known in the art and optionally exemplified by Marschke and/or Makoui.

As to claim 10, McCarville discloses repeating the steps of aligning and pressing additional fabric layers on the tool prior to curing (column 8) and Makoui discloses it is known to form lobes on a roller out of elastomeric material (rubber). As to claim 2, McCarville discloses repeating the steps of aligning and pressing additional fabric layers on the tool prior to curing (column 8). As to claims 3 and 11, Graff discloses maintaining tension in the fabric as it is pressed into the tool and it would have been well within the purview of one of ordinary skill in the art at the time of the invention to provide the fabric in McCarville with tension, only the expected results would be attained. As to claims 5 and 13, the fabric in McCarville is cured with pressure and heat (column 5, lines 15-20; column 8, lines 60-62). As to claims 8 and 16, the tool in McCarville has a sine-wave profile and the lobes in Graff and Fell have a sine-wave profile.

19. Claims 2, 10, 13, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weight et al. optionally in view of Marschke and/or Makoui as set forth above for claim 1 and further in view of Fell (US Patent No. 5,543,199).

Fell discloses it is known in the art to provide multiple layers of reinforced plastic when molding layers in order to provide thicker layers in panels (column 3, lines 47-61 and column 9, lines 49-56). It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of forming a panel as shown by Weight by repeating the steps of aligning a fabric with the grooves of a tool then moving the roller across the grooves of the tool prior to curing the fabric layers together in order to form a thicker panel layer as shown by Fell.

As to claim 10, Makoui discloses it is known to form lobes on a roller out of elastomeric material (rubber). As to claim 13, the fabric is cured with heat and pressure ([0022]). As to claim 16, the tool and the roller have a sine-wave profile ([0016]).

20. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graff in view of Marschke and/or Makoui as set forth above for claim 1 and further in view of Kobler et al. (US Patent No. 5,351,615).

While it is clear in the references that the lobed members are mounted on a shaft, it is unclear if the lobed members of the roller are wrapped around the shaft. It is well known in the art of forming rollers when applying an outer layer of material to a roller (in particular an elastomeric material as shown in Makoui) to wrap the outer layer around the inner shaft. Kobler discloses one example of how an outer layer of a roller is mounted on the roller shaft by wrapping the outer layer around the shaft. It would have

been obvious to one of ordinary skill in the art at the time of the invention to provide the roller in Graff by wrapping the lobed member around the shaft in order to mount the lobed member on the shaft as is well known in the art and further exemplified by Kobler.

21. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weight in view of Marschke and/or Makoui as set forth above for claim 1 and further in view of Kobler et al. (US Patent No. 5,351,615).

While it is clear in the references that the lobed members are mounted on a shaft, it is unclear if the lobed members of the roller are wrapped around the shaft. It is well known in the art of forming rollers when applying an outer layer of material to a roller (in particular an elastomeric material as shown in Makoui) to wrap the outer layer around the inner shaft. Kobler discloses one example of how an outer layer of a roller is mounted on the roller shaft by wrapping the outer layer around the shaft. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the roller in Weight by wrapping the lobed member around the shaft in order to mount the lobed member on the shaft as is well known in the art and further exemplified by Kobler.

22. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCarville, Graff and/or Fell in view of Marschke and/or Makoui as set forth above for claim 1 and further in view of Kobler et al. (US Patent No. 5,351,615).

While it is clear in the references that the lobed members are mounted on a shaft, it is unclear if the lobed members of the roller are wrapped around the shaft. It is well known in the art of forming rollers when applying an outer layer of material to a roller (in particular an elastomeric material as shown in Makoui) to wrap the outer layer

around the inner shaft. Kobler discloses one example of how an outer layer of a roller is mounted on the roller shaft by wrapping the outer layer around the shaft. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the roller in McCarville, Graff and/or Fell by wrapping the lobed member around the shaft in order to mount the lobed member on the shaft as is well known in the art and further exemplified by Kobler.

23. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graff (US Patent No. 3,477,894) (optionally in view of Marschke and/or Makoui) as set forth above for claim 1 and further in view of Donecker et al. (US Patent No. 5,882,462).

It is well known in the art, when molding sheets in a mold, to clamp the sheet to be molded to the mold for proper alignment and molding. Donecker discloses one example of clamping fabric to a tool in order to hold the fabric on the tool (column 3, lines 60-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of forming a panel as shown by Graff by providing a clamp in order to retain the fabric to a first end of the base tool as is well known in the molding art and exemplified by Donecker.

24. Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weight et al. (US Publication No. 2001/0001409) (optionally in view of Marschke and/or Makoui) as set forth above for claim 1 and further in view of Donecker et al. (US Patent No. 5,882,462).

It is well known in the art, when molding sheets in a mold, to clamp the sheet to be molded to the mold for proper alignment and molding. Donecker discloses one

example of clamping fabric to a tool in order to hold the fabric on the tool (column 3, lines 60-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of forming a panel as shown by Weight by providing a clamp in order to retain the fabric to a first end of the base tool as is well known in the molding art and exemplified by Donecker.

25. Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCarville et al. (US Patent No. 5,843,355) in view of Graff (US Patent No. 3,477,894) and/or Fell (US Patent No. 5,543,199) (optionally in view of Marschke and/or Makoui) as set forth above for claim 1 and further in view of Donecker et al. (US Patent No. 5,882,462).

It is well known in the art, when molding sheets in a mold, to clamp the sheet to be molded to the mold for proper alignment and molding. Donecker discloses one example of clamping fabric to a tool in order to hold the fabric on the tool (column 3, lines 60-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of forming a panel as shown by McCarville by providing a clamp in order to retain the fabric to a first end of the base tool as is well known in the molding art and exemplified by Donecker.

***Allowable Subject Matter***

26. The following is a statement of reasons for the indication of allowable subject matter: While it is known in the art to form a lobed roll by wrapping lobed material around a shaft as shown by the references Makoui and Kobler, no prior art was found to show or suggest a method of forming a panel where the lobed member of a roller is

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removed and laid on the base tool with the lobes in the grooves and then applying heat and pressure to cure the fabric in the claimed environment. As to claims 7, 15, and 18, no prior art was found to show or suggest a method of forming a panel where the lobed member of a roller is removed and laid on the base tool with the lobes in the grooves and then enclosing the base tool, fabric, and lobed member in a vacuum bag, withdrawing air from the bag with the air pressure outside of the bag forcing the lobed member and base tool toward each other for compacting the fabric in the claimed environment.

27. Absent any additional prior art, claims 6, 7, 14, and 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

28. Absent any additional prior art, claims 18 and 19 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gladys J Piazza Corcoran whose telephone number is (703) 305-1271 until December 18, 2003 and (571) 272-1214 afterwards. The examiner can normally be reached on M-F 8am-5:30pm (alternate Fridays off).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
Gladys J. Piazza Corcoran  
Examiner  
Art Unit 1733

GJPC